



# e<sup>2</sup>60 | SOUND PROTECTION



# The LUNOS e<sup>2</sup>60

## Home ventilation with heat recovery

### Sound values e<sup>2</sup>60: Get the maximum out of it!

On the following pages you will find the sound values of the e<sup>2</sup>60 for different wall thicknesses. The tables are shown in order of wall thickness.

To obtain the exact sound values of the e<sup>2</sup>60 adapted to the wall thickness, accessories and required volume flow rates, please read the tables as follows: The existing wall thickness will tell you which table is the right one for you.

Please find the wall thicknesses on the following pages:

<b>Wall thickness 280 - 313 mm:</b>	<b>page 4-5*</b>
<b>Wall thickness 314 - 384 mm:</b>	<b>page 6-7</b>
<b>Wall thickness 385 - 455 mm:</b>	<b>page 8-9</b>
<b>Wall thickness 456 - 500 mm:</b>	<b>page 10-11</b>

\*Lower wall thicknesses on request

If your wall thickness differs from the wall thicknesses given here, please contact us. We at LUNOS will find a solution for everything.

In this table you can read off at which volume flow the maximum standard sound level difference can be achieved. At the top of the column you will then see which accessories your e<sup>2</sup>60 must be equipped with.

Of course, lower sound protection values are also possible, but we assume that you want to get the maximum out of it.

Have fun configuring your perfect e<sup>2</sup>60.

### You can rely on us

And of course on the technical data of LUNOS as well. Accordingly, sound values are of course measured and tested with the ventilation unit open. A closed unit may allow less sound to pass through, but after all, ventilation is about supplying fresh air. And that is precisely what LUNOS has been committed to with heart and soul for over 60 years.

That's why the ventilation control is equipped with humidity and temperature control as standard.

Made in Germany



Properties	e <sup>2</sup> 60	e <sup>2</sup> 60short
Volume flow	5 - 60 m <sup>3</sup> /h	5 - 60 m <sup>3</sup> /h
Max. heat provision level	96 %	90 %
Heat provision level according to EN 13141-8, measured by HLK-Stuttgart	0 - 40: 88 % 0 - 60: 83 %	0 - 40: 83 % 0 - 60: 80 %
Sound pressure level at 1 m distance	10 - 48 dB(A)	10 - 48 dB(A)
Sound pressure level at 3 m distance	3 - 39 dB(A)	3 - 39 dB(A)
Measuring surface sound pressure level	9 dB(A)	9 dB(A)
Max. standard sound level difference D <sub>n,e,w</sub>	67 dB	67 dB
Sound power level L <sub>W</sub>	18 - 56 dB(A)	18 - 56 dB(A)
Power consumption	0,4 - 3,3 W	0,4 - 3,3 W
Supply voltage	12 V DC SELV	12 V DC SELV
Core drilling	162 mm	162 mm
Minimum installation length	280 mm (lower on request)	200 mm
Dimensions	Insert Ø 154 x 243 mm	Insert Ø 154 x 160 mm
Compatibility	All 160 systems incl. LUNOtherm and external hoods as external closure	All 160 systems incl. LUNOtherm and external hoods as external closure
Energy efficiency class	<b>A+</b>	<b>A</b>
Protection class	IP22	IP22
Approval according to DIBt	applied for under III 56-1.51.3-14/19	

Measurement reports and certificates available on request

All figures are mathematically rounded



# Sound protection table e<sup>2</sup>60

Wall thickness from 280 - 313 mm




## Get the maximum out of it!

In this table you will find the sound protection values that the e<sup>2</sup>60 can achieve at a wall thickness of 280 - 313 mm.

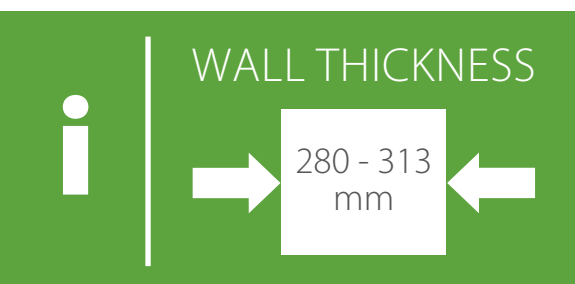
First you specify whether you want to achieve a volume flow of 40 m<sup>3</sup>/h or a volume flow of 60 m<sup>3</sup>/h. In this table you will then see the maximum achievable standard sound level difference D<sub>n,e,w</sub> that is possible at this volume flow.

Once you have discovered the perfect value for you in the line, you can read off in the column at the top which accessories are required for the e<sup>2</sup>60 so that this sound protection value is achieved with the volume flow.

## Standard sound level difference D<sub>n,e,w</sub> in dB:

Volume flow \ Accessories	Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
	 1/BE 180, 1/WE 180 or 1/AZ 180 and 9/IBE	 1/HWE, 1/HAZ or 1/HES and 9/IBE	 1/HWE, 1/HAZ or 1/HES and 9/IBS
40 m <sup>3</sup> /h	42	46	47
60 m <sup>3</sup> /h	42	46	47

from 280 mm wall thickness: higher values are possible with shortened sound protection elements on request.



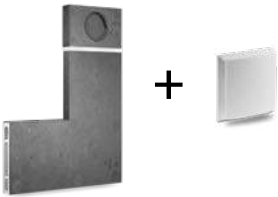
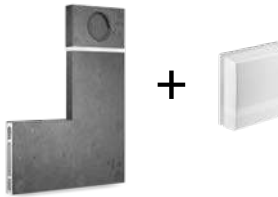
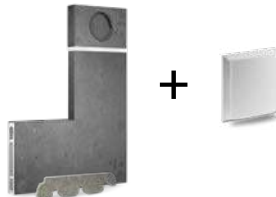
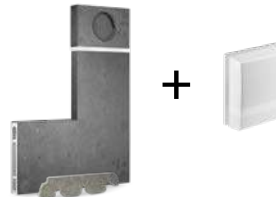
## More information on our sound protection accessories

In the info section on pages 12 - 13 you will find more information about the e<sup>2</sup>60 and the sound protection accessories as well as all article numbers.



**Maximum or minimum, it's your decision!**

With this low wall thickness, there is no possibility of using additional sound protection elements inside the ventilation duct. Here it depends solely on the choice of internal screens and outer grilles or hoods or LUNOtherm-S. Of course, lower sound protection values are also possible, but we assume that you want to get the highest possible sound protection out of your e<sup>2</sup>60.

LUNOtherm-S and standard inner screen	LUNOtherm-S and sound-insulating inner screen	LUNOtherm-S+ and standard inner screen	LUNOtherm-S+ and sound-insulating inner screen
			
LUNOtherm-S and 9/IBE	LUNOtherm-S and 9/IBS	LUNOtherm-S+ and 9/IBE	LUNOtherm-S+ and 9/IBS
54	55	56	56
54	55	56	56

All figures are mathematically rounded

**Best values according to volume flow and wall thickness:**

Wall thickness	280 - 313 mm	314 - 384 mm	385 - 455 mm	456 - 500 mm
Volume flow	Max. Standard sound level difference $D_{n,e,w}$ in dB			
40 m <sup>3</sup> /h	56	58	64	67
60 m <sup>3</sup> /h	56	56	56	56

# Sound protection table e<sup>2</sup>60

Wall thickness from 314 - 384 mm







## Get the maximum out of it!

In this table you will find the sound protection values that the e<sup>2</sup>60 can achieve at a wall thickness of 314 - 384 mm.

First you specify whether you want to achieve a volume flow of 40 m<sup>3</sup>/h or a volume flow of 60 m<sup>3</sup>/h. In this table you will then see the maximum achievable standard sound level difference D<sub>n,e,w</sub> that is possible at this volume flow.

Once you have discovered the perfect value for you in the row, you can see in the illustration which accessories, including the one sound protection set are necessary for the e<sup>2</sup>60 to achieve this sound protection value..

## Standard sound level difference D<sub>n,e,w</sub> in dB:

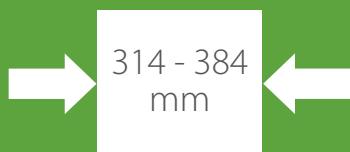
Accessories Volume flow	Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
 including 1 x Sound absorber + 1 x Sound reflector	 +  1/BE 180, 1/WE 180 or 1/AZ 180 and 9/IBE	 +  1/HWE, 1/HAZ or 1/HES and 9/IBE	 +  1/HWE, 1/HAZ or 1/HES and 9/IBS
40 m <sup>3</sup> /h	49	53	53

Accessories Volume flow	Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
60 m <sup>3</sup> /h	42	46	47

from 314 mm wall thickness: higher values are possible with shortened sound protection elements on request.



## WALL THICKNESS



## More information on our sound protection accessories

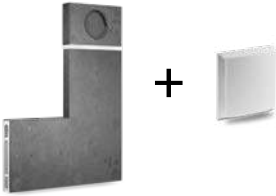
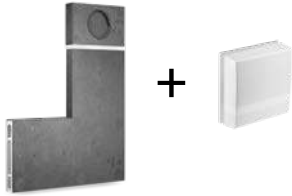
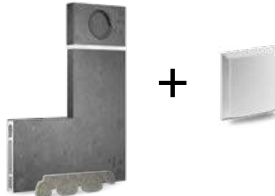
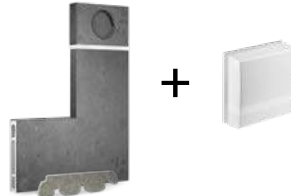
In the info section on pages 12 - 13 you will find more information about the e<sup>2</sup>60 and the sound protection accessories as well as all article numbers.



**Maximum or minimum, it's your decision!**

Starting with the higher wall thicknesses, additional sound protection elements can be positioned in the ventilation duct. Thus, large wall thicknesses are the key to high sound protection. You can already achieve the best values from a wall thickness of 456 mm.

Of course, lower sound protection values are also possible, but we assume that you want to get the highest possible sound protection out of your e<sup>2</sup>60.

LUNOtherm-S and standard inner screen	LUNOtherm-S and sound-insulating inner screen	LUNOtherm-S+ and standard inner screen	LUNOtherm-S+ and sound-insulating inner screen
			
LUNOtherm-S and 9/IBE	LUNOtherm-S and 9/IBS	LUNOtherm-S+ and 9/IBE	LUNOtherm-S+ and 9/IBS
55	55	56	58

LUNOtherm-S and standard inner screen	LUNOtherm-S and sound-insulating inner screen	LUNOtherm-S+ and standard inner screen	LUNOtherm-S+ and sound-insulating inner screen
54	55	56	56

All figures are mathematically rounded

**Best values according to volume flow and wall thickness:**

Wall thickness	280 - 313 mm	314 - 384 mm	385 - 455 mm	456 - 500 mm
Volume flow	Max. Standard sound level difference $D_{n,e,w}$ in dB			
40 m <sup>3</sup> /h	56	58	64	67
60 m <sup>3</sup> /h	56	56	56	56

# Sound protection table e<sup>2</sup>60

Wall thickness from 385 - 455 mm





## Get the maximum out of it!

In this table you will find the sound protection values that the e<sup>2</sup>60 can achieve at a wall thickness of 385 - 455 mm.

First you specify whether you want to achieve a volume flow of 40 m<sup>3</sup>/h or a volume flow of 60 m<sup>3</sup>/h. In this table you will then see the maximum achievable standard sound level difference D<sub>n,e,w</sub> that is possible at this volume flow.

Once you have discovered the perfect value for you in the row, you can see in the illustration which accessories, including the two sound protection sets are necessary for the e<sup>2</sup>60 to achieve this sound protection value..

## Standard sound level difference D<sub>n,e,w</sub> in dB:

Accessories Volume flow	Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
 including 2 x Sound absorbers + 2 x Sound reflectors	 + 	 + 	 + 
40 m <sup>3</sup> /h	55	57	57

Accessories Volume flow	Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
60 m <sup>3</sup> /h	42	46	47

from 385 mm wall thickness: higher values are possible with shortened sound protection elements on request.



## More information on our sound protection accessories

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### Maximum or minimum, it's your decision!

Starting with the higher wall thicknesses, additional sound protection elements can be positioned in the ventilation duct. Thus, large wall thicknesses are the key to high sound protection. You can already achieve the best values from a wall thickness of 456 mm.

Of course, lower sound protection values are also possible, but we assume that you want to get the highest possible sound protection out of your e<sup>2</sup>60.

LUNOtherm-S and standard inner screen	LUNOtherm-S and sound-insulating inner screen	LUNOtherm-S+ and standard inner screen	LUNOtherm-S+ and sound-insulating inner screen
			
LUNOtherm-S and 9/IBE	LUNOtherm-S and 9/IBS	LUNOtherm-S+ and 9/IBE	LUNOtherm-S+ and 9/IBS
58	58	64	64

LUNOtherm-S and standard inner screen	LUNOtherm-S and sound-insulating inner screen	LUNOtherm-S+ and standard inner screen	LUNOtherm-S+ and sound-insulating inner screen
54	55	56	56

All figures are mathematically rounded

### Best values according to volume flow and wall thickness:

Wall thickness	280 - 313 mm	314 - 384 mm	385 - 455 mm	456 - 500 mm
Volume flow	Max. Standard sound level difference $D_{n,e,w}$ in dB			
40 m <sup>3</sup> /h	56	58	64	67
60 m <sup>3</sup> /h	56	56	56	56

# Sound protection table e<sup>2</sup>60

Wall thickness from 456 - 500 mm


## Get the maximum out of it!

In this table you will find the sound protection values that the e<sup>2</sup>60 can achieve at a wall thickness of 456 - 500 mm.

First you specify whether you want to achieve a volume flow of 40 m<sup>3</sup>/h or a volume flow of 60 m<sup>3</sup>/h. In this table you will then see the maximum achievable standard sound level difference D<sub>n,e,w</sub> that is possible at this volume flow.

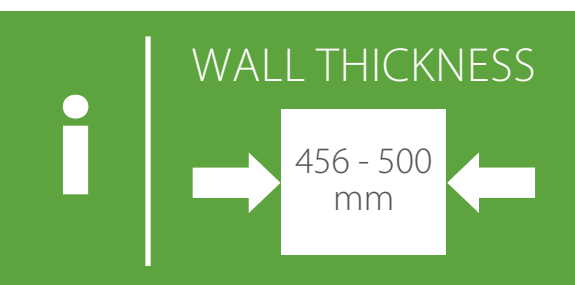
Once you have discovered the perfect value for you in the row, you can see in the illustration which accessories, including the three sound protection sets are necessary for the e<sup>2</sup>60 to achieve this sound protection value..

## Standard sound level difference D<sub>n,e,w</sub> in dB:

Volume flow \ Accessories	Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
 <p>including 3 x Sound absorbers + 3 x Sound reflectors</p>	 <p>1/BE 180, 1/WE 180 or 1/AZ 180 and 9/IBE</p>	 <p>1/HWE, 1/HAZ or 1/HES and 9/IBE</p>	 <p>1/HWE, 1/HAZ or 1/HES and 9/IBS</p>
40 m <sup>3</sup> /h	58	60	60

Volume flow \ Accessories	Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
60 m <sup>3</sup> /h	42	46	47

from 456 mm wall thickness: higher values are possible with shortened sound protection elements on request.



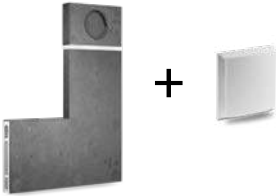
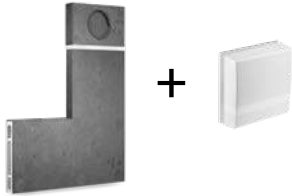
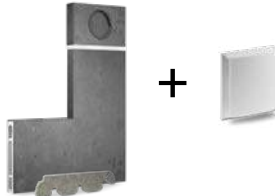
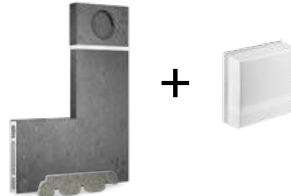
## More information on our sound protection accessories

In the info section on pages 12 - 13 you will find more information about the e<sup>2</sup>60 and the sound protection accessories as well as all article numbers.

**Maximum or minimum, it's your decision!**

Starting with the higher wall thicknesses, additional sound protection elements can be positioned in the ventilation duct. Thus, large wall thicknesses are the key to high sound protection. You can already achieve the best values from a wall thickness of 456 mm.

Of course, lower sound protection values are also possible, but we assume that you want to get the highest possible sound protection out of your e<sup>2</sup>60.

LUNOtherm-S and standard inner screen	LUNOtherm-S and sound-insulating inner screen	LUNOtherm-S+ and standard inner screen	LUNOtherm-S+ and sound-insulating inner screen
			
LUNOtherm-S and 9/IBE	LUNOtherm-S and 9/IBS	LUNOtherm-S+ and 9/IBE	LUNOtherm-S+ and 9/IBS
62	62	67	67

LUNOtherm-S and standard inner screen	LUNOtherm-S and sound-insulating inner screen	LUNOtherm-S+ and standard inner screen	LUNOtherm-S+ and sound-insulating inner screen
54	55	56	56

All figures are mathematically rounded

**Best values according to volume flow and wall thickness:**

Wall thickness	280 - 313 mm	314 - 384 mm	385 - 455 mm	456 - 500 mm
Volume flow	Max. Standard sound level difference $D_{n,e,w}$ in dB			
40 m <sup>3</sup> /h	56	58	64	67
60 m <sup>3</sup> /h	56	56	56	56

# Info area

## Accessories, ordering information and installation instructions

### Accessory data and ordering information

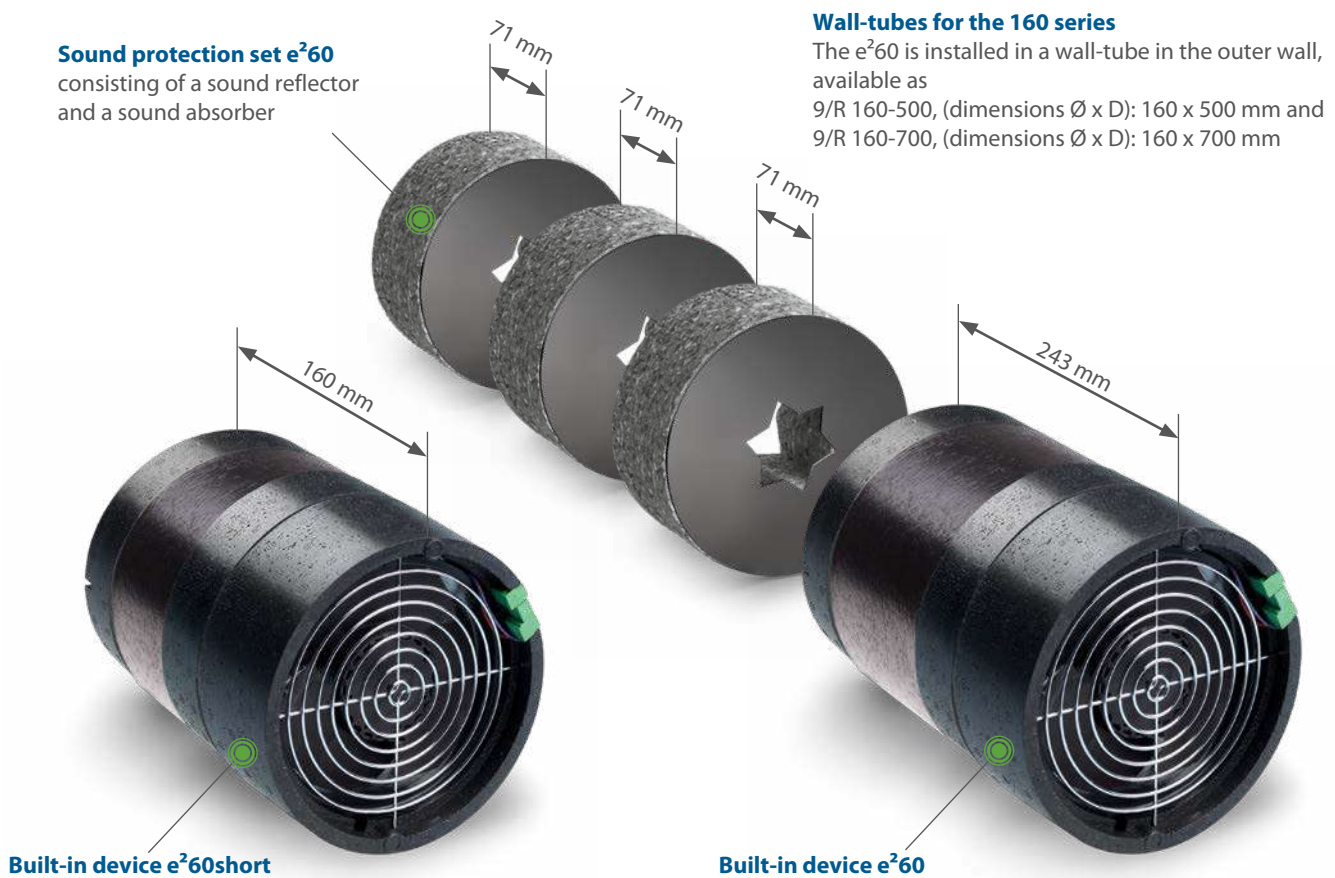
Product	Type, description	Order number	Dimensions
	e²60 built-in device Fan with heat recovery	041 157	(Ø x D) 154 x 243 mm
	e²60short built-in device Fan with heat recovery	040 150	(Ø x D) 154 x 160 mm
	9/IBE Standard inner screen	039 851	(H x W x D) 180 x 180 x 35 mm
	9/IBS Sound-insulating inner screen	039 947	(H x W x D) 250 x 250 x 78 mm
	1/BE 180, 1/WE 180 und 1/AZ 180 Grille with facade protection ring	039 917, 039 852 and 041 143	(Ø x D) 180 x 16,5 mm
	1/HWE, 1/HAZ und 1/HES Outer hood with sound insulation	040 020, 040 021 and 040 218	(H x W x D) 235 x 205 x 72 mm
	LUNOtherm-S, S-60 Facade element with sound insulation	041 154	(H x W x D) 630 x 400 x 60 mm
	LUNOtherm-S+, S-60+ Facade element with higher level of sound insulation	041 167	(H x W x D) 630 x 400 x 60 mm
	9/SR Sound reflector	041 136	(Ø x D) 154 x 2 mm
	9/SD-S Sound absorber	039 919	(Ø x D) 154 x 69 mm

### Installation instructions for the sound protection of the e<sup>2</sup>60

In order to be able to easily calculate the maximum sound protection sets that can be used within the wall-tube, please refer to the dimensioned pictures below, as well as the tables with the complete lengths of the built-in devices including the sound protection sets.

Sound reflector and sound absorber are always installed alternately, as shown.

For optimum utilisation of the wall thickness, the sound protection elements can be shortened.



### Lengths of the e<sup>2</sup>60 built-in devices with sound protection:

	1 x Sound protection set	2 x Sound protection sets	3 x Sound protection sets
e <sup>2</sup> 60	<b>314 mm</b>	<b>385 mm</b>	<b>456 mm</b>
e <sup>2</sup> 60short	<b>231 mm</b>	<b>302 mm</b>	<b>373 mm</b>

Note: Please take into account the inclusion of the inner screens and outer grilles (incl. facade protection rings) of 20 mm each when calculating the best possible filling of the wall-tube.  
For the calculation with a LUNOtherm-S, please contact us in advance.



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